



Name _____

Practice: For use after Lesson 9.2, Algebra 2 with T

Algebra 2 CP
Unit 11: WS #4**The Function $y = ax^2 + bx + c$**

For each function, give the equation of the axis of symmetry, the coordinates of the vertex, and the x - and y -intercepts.

1. $y = x^2 + 4x$ _____

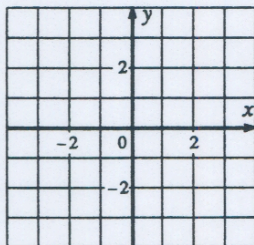
2. $y = -x^2 + 6x$ _____

3. $y = 2x^2 + 7x + 3$ _____

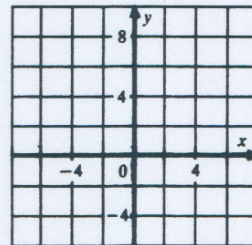
4. $y = 3x^2 - x - 2$ _____

Sketch the graph of each function.

5. $y = x^2 + 2x$



6. $y = -2x^2 - 8x$



Determine whether each function has a maximum or minimum value. Then find that value.

7. $y = -x^2 + 4x + 4$ _____

8. $y = 3x^2 - 5x - 2$ _____

9. $y = -3x^2 - 2x + 5$ _____

10. $y = 3 - x^2$ _____

Application

11. **Construction** A rectangular pen is to be constructed alongside a barn using 120 ft of fencing. In order to make the area of the pen a maximum, what should be the dimensions of the pen? _____

MIXED PRACTICE

Give the direction of the opening of the parabola, the equation of the axis of symmetry, the coordinates of the vertex, and the x - and y -intercepts.

12. $y = 2x^2$ _____

13. $y = x^2 - 8x$ _____

14. $y = 2x^2 + 3x - 5$ _____